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GEOPHYSICAL ABSTRACTS

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BY

FREDERICK W. LEE

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GEOPHYSICAL ABSTRACTS[1]

No. 6

Compiled by Frederick W. Lee[2]

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LIST OF CONTRIBUTING EDITORS TO GEOPHYSICAL ABSTRACTS

Ayvazoglou, W., U. S. Bureau of Mines, Department of Commerce, Washington, D. C.
Barton, Dr. D. C., Petroleum Building, Houston, Tex.
Eve, Dr. A. S., McGill University, Montreal, Canada.
Foote, Dr. Paul D., Mellon Institute, Pittsburgh, Pa.
Gish, Dr. O. H., Carnegie Institution, Broad Branch Road, Washington, D. C.
Hartley, Kenneth, Humble Oil Co., Houston, Tex.
Hutchinson, Prof. W. Spencer, Massachusetts Institute of Technology, Cambridge, Mass
Jenny, Dr. W. P., 210 McGowen Avenue, Houston, Tex.
Karcher, Dr. J. C., Geophysical Research Corporation, 65 Broadway, New York City.
Keys, Dr. D. A. McGill University, Montreal, Canada.
Knappen, Dr. R. S., Gypsy Oil Co., Tulsa, Okla.
Lane, Prof. Alfred C., Tufts College, Boston, Mass.
Lee, Dr. F. W., Bureau of Mines, Department of Commerce, Washington, D. C.
Leonardon, E. C., 25 Broadway, New York City.
McLaughlin, Prof. Donald H., Harvard University, Cambridge, Mass.
Ostrand, Dr. C. E. Van, Interior Building, Washington, D. C.
Roman, Dr. I., Geophysical Research Corporation, 65 Broadway, New York City.
Ruark, Dr. A. E., Mellon Institute, Pittsburgh, Pa.
Scholl, Louis A., Box 1805, Houston, Tex.
Sundberg, Dr. Karl, Swedish American Prospecting Corp., 26 Beaver St., New York City
Truemann, O. H. Humble Oil Co., Houston, Tex.
Weaver, Paul, Drawer C., Houston, Texas.
Weelden, Dr. A. von, Shell Petroleum Corporation, Dallas, Tex.
Wright, Dr. F. E., Carnegie Institution, Washington, D. C.
Zuschlag, Dr. Theodor, Swedish American Prospecting Co., 26 Beaver St., N.Y. City.

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[2] Supervising engineer, geophysical section, U. S. Bureau of Mines.

This circular contains a brief summary by F. W. Lee of some of the domestic patents issued from the United States Patent Office. It may serve as a guide for a preliminary search on new inventions and also show the history as well as the trend of the art.

1- GRAVITATIONAL METHODS

1,617,823 Patented Feb. 15, 1927

EÖTVÖS TORSION BALANCE

Stephen Rybár, of Budapest, Hungary

Patent discloses a method of reducing the size of the torsion balance by reducing the torsion wire diameter below .02 millimeter and the beam and length of wire from the size in the normal balance of 40 and 50 centimeters, respectively, by the cube root of the fourth power of the ratio between .02 millimeter and the diameter of the reduced wire, whereby the sensitivity of the balance remains unchanged.

Claims allowed - 1.

1,579,273 Patented April 6, 1926

APPARATUS FOR THE MEASUREMENT OF THE VARIATIONS IN THE FORCE OF GRAVITY

Frederick Eugene Wright of Washington, D. C., assignor
to Carnegie Institution of Washington

Patent discloses a method for the direct determination of the force of gravity or variations thereof by measuring the torsion of two nonperiodic tapered helical suspensions. Very slight variations of gravity are measured by a three-image optical system embodied in the design.

Claims allowed - 13.

1,652,255 Patented Dec. 13, 1927

GRAVITATION METER FOR MEASURING THE VERTICAL GRADIENT OF THE GRAVITY OF THE EARTH

Wilheim Schweydar, of Potsdam, Germany

Patent discloses a method of measuring the vertical gravity gradient by comparing the bifilar turning moment with the torsional component of a helical spring. By adjusting the position of a counterpoise, two indications are made at different distances from the earth's center.

Claims allowed - 3.

1,570,310 Patented May 22, 1928

TORSION BALANCE

Robert H. Miller, of Houston, Tex.

Patent discloses improvements in the torsion balance by reducing the time of oscillations by eddy-current damping in a hollow silver cylinder forming an axial extension of the torsion suspension. Suitable arrangements have been described for obtaining an axial magnetic field from an electromagnet.

Claims allowed - 10.

1,684,229 Patented Sept. 11, 1928

MEASURING INSTRUMENT (TORSION BALANCE)

Johann Koenigsberger, of Freiburg, Germany

Patent discloses a damped system on a torsion balance. The device consists of a moving element in a damping liquid with the wire passing through the center of the liquid surface. The moving element consists of a plurality of discs, and the wire supporting the same is of small diameter.

Claims allowed - 4.

2- MAGNETIC METHODS

961,298 Patented June 14, 1910

PROSPECTOR'S NEEDLE

Dell W. Jewell, of Kalamazoo, Mich.

Patent discloses a balanced dip needle capable of being deflected in proximity of magnetic minerals. A circuit arrangement is provided for closing a contact and lighting a lamp upon deflection of the needle, which also can be lowered into shafts and drill holes.

Claims allowed - 2.

3- SEISMIC METHODS

796,540 Patented Aug. 8, 1905

ECHO - DISTANCE METER

John Sutherland, of Seattle, Wash.

Patent discloses method of recording distance directly, using sound and the echo thereof. It is partly manually operated, but contains very many important details embodied in the claims useful to this art.

Claims allowed - 13.

844,838 Patented Feb. 19, 1907

DEVICE FOR REGISTERING VIBRATION OF MUSICAL SOUNDS

Lewis R. Wheeler, of Tacoma, Wash.

Patent discloses method of sound registration using carbon button microphone. A balanced torque method of equilibrium position is used on the pointer in combination with an inductorium.

Claims allowed - 3.

1,082,014 Patented Dec. 23, 1913

MEANS FOR MEASURING, INDICATING, AND RECORDING VIBRATIONS

W. P. Digby, P. W. Beatty, and A. C. Huskinson

Patent discloses a method of using a liquid surface in conjunction with a reflector for recording vibrations. The mirror floats on the surface of the liquid, and provisions are made for photographic registration. The method was intended for measuring vibrations in machines.

Claims allowed - 3.

1,095,022 Patented April 28, 1914

SEISMOGRAPH

Thomas O'Brien, of Brooklyn, N. Y.

Patent discloses a portable seismograph for recording vibrations of buildings, bridges, etc. Combines the recording, by single pendulum, of the vertical and horizontal vibrations independently from each other. Mechanical levers are used for amplification of movement.

Claims allowed - 9.

1,149,976 Patented Aug. 10, 1915

METHOD FOR LOCATING SOUNDS

Henry J. Furber, jr., of Chicago, Ill.

Patent discloses method of determining the source of sound from stations located at different distances from each other. Uses oscillographic recording methods and single vibratory impulse as basis of comparison.

Claims allowed - 4.

1,194,376 Patented Aug. 15, 1916

APPARATUS FOR ASCERTAINING THE RELATIVE LOCATIONS OF DISTANT POINTS

Henry J. Furber, jr., of Chicago, Ill.

Patent discloses a method of recording a distance by the difference of velocity in two mediums between two points. Two separate receivers are used in the two media. Oscillographic recording is applied.

Claims allowed - 4.

1,240,328 Patented Sept. 18, 1917

METHOD AND APPARATUS FOR LOCATING ORE BODIES

Reginald A. Fessenden, of Brookline, Mass., assignor
to Submarine Signal Co.

Patent discloses a method of locating ore bodies by "sound inflection," that is, bending of the line of sound by refraction or reflection. The time-distance relation is the basis of observation, as well as the direction of the sound.

Claims allowed - 2.

1,341,795 Patented June 1, 1920

LOCATING ENEMY GUN POSITIONS

Reginald A. Fessenden, of Brookline, Mass., assignor
to Submarine Signal Co.

Patent discloses a predetermined disposition of a plurality of sonic receiving apparatus, locating by travel-time diagrams the position of a gun. The same sounds are identified by oscillographic registration.

Claims allowed - 2.

1,450,246 Patented April 3, 1923

PIEZO-ELECTRIC RESONATOR

Walter G. Cady, of Middletown, Conn.

Patent discloses the elemental reactions in an electric circuit of a piezo-electric crystal or resonator. It also gives a description of a simple oscillator valve circuit adjusted by crystal frequency.

Claims allowed - 6.

1,451,080 Patented April 10, 1923

FIELD SEISMOGRAPH

Ludger Mintrop, of Hanover, Germany

Patent discloses oscillatably supported weight combined with a comparatively light-weighted lever, a rockingly supported mirror, a means for damping oscillations by oil or magnetically, and a source of light suitably arranged for registering photographically the amount of relative motion of the weight and supports. Complete system of stopping and release mechanism is also specified, as well as a return to the same zero position.

Claims allowed - 11.

1,472,583 Patented Oct. 30, 1923

METHOD OF MAINTAINING ELECTRIC CURRENTS OF CONSTANT FREQUENCY

Walter G. Cady, of Middletown, Conn.

Patent discloses the use of a crystal in a vacuum-tube oscillator circuit for controlling the frequency of the circuit. The characteristic curves associated with this device are described.

Claims allowed -

1,483,547 Patented Feb. 12, 1924

METHOD OF DETERMINING DISTANCES

Harvey C. Hayes, of New London, Conn., assignor
to Submarine Signal Co.

Patent discloses a method of depth-sounding by generating sound at a known position and determining at another known position the angle of incidence reflected from the bottom. The amount of shelving or slope of the bottom can be determined from two sets of apparatus properly placed.

Claims allowed - 9.

1,532,108 Patented March 31, 1925

DETERMINATION OF WAVE-ENERGY DIRECTION

Harvey C. Hayes, of New London, Conn., assignor
to Submarine Signal Co.

Patent discloses a system of receivers arrayed in a circle. A binaural system connects to definite groups of these receivers. Provision is made for time lag in the separate receivers and also for a rotatable means of connecting to the system of receivers to determine the direction of the wave.

Claims allowed - 4.

1,561,441 Patented Nov. 10, 1925

APPARATUS FOR DIRECTIVE SIGNALING

Reginald A. Fessenden, of Newton, Mass., assignor
to Submarine Signal Co.

Patent discloses the binaural method of determining the direction of the source of sound. The difference in phase may be equalized either electrically in the two circuits or by turning the two separate receivers about a common axis.

Claims allowed - 10.

1,581,334 Patented April 20, 1926

VIBRATION-DETECTING DEVICE

Irving B. Crandall, of East Orange, N.J., assignor
to Western Electric Co.

Patent discloses a soft rubber diaphragm clamped at the periphery to which is attached a current-varying device. The sensitivity of the apparatus should be maintained irrespective of the depth of immersion in water.

Claims allowed - 7.

1,591,612 Patented July 6, 1926

VIBRATION ANALYZER

Hobart C. Dickinson, of Washington, D.C.

Patent discloses a method of photographically recording vibrations from a gimbally-mounted mirror. Certain planes of vibration may be directed through gimbal supports and thereby eliminated. A method for increasing the intensity of illumination for photographic registration is embodied in the patent.

Claims allowed - 16.

1,593,972 Patented July 27, 1926

APPARATUS FOR DETERMINING RANGES BY MEANS OF SOUND WAVES

Harvey C. Hayes, of Washington, D.C.

Patent discloses a system made sensitive to echoes and insensitive to direct waves with continuous vibrations by selective spacing of odd one-half wave lengths between transmitter and receiver. Also by the use of a plurality of transmitters and receivers, operating in phase opposition, the direct wave action is reduced.

Claims allowed - 3.

1,599,538 Patented Sept. 14, 1926

GEOLOGICAL TESTING METHOD

Ludger Mintrop, of Bochurn, Germany

Patent discloses a method of creating seismic disturbance and from it ascertaining the "travel-time" curves. Using these curves as a basis it teaches how to detect change of structure from inflection points on these curves. The depth of travel of impulse as a function of the distance, speed, and depth curves and their interpretation are described. The method for detailing by choosing proper location of explosive charge to points selected for recording is explained.

Claims allowed - 16.

1,613,520 Patented Jan. 4, 1927

APPARATUS FOR RECORDING THE DURATION OF VERY BRIEF PHENOMENA

Pierre Auguste Daniel Marti, of Philippeville, Algeria

Patent discloses a method of determing time interval of short duration by using a revolving element in conjunction with a contact point passing over a paper band. Adapted for continuous recording of sonic depths and for ultra-sonorous apparatus of the Langevin type.

Claims allowed - 8.

1,619,017 Patented March 1, 1927

MEANS FOR FINDING DIRECTION

Richard D. Fay, of Nahant, Mass., assignor
to Submarine Signal Co.

Patent discloses a method of determining from what direction sounds are arriving. Three or more separate sound-receiving systems are employed with a method of connecting to any two for minimum difference in phase. The three have a displacement in a plane at the points of an equilateral triangle.

Claims allowed - 8.

1,662,247 Patented March 13, 1928

METHOD AND ARRANGEMENT OF DIRECTIONAL WAVE RECEPTION AND EMISSION

Walter Hahnemann, Henrich Hecht, and Bernhard Nielson,
assignors to Signal Gesellschaft, of Kiel, Germany

Patent discloses a method of arrangement of receivers or senders for directive listening and sending. The arrangement for most effective spacing is described. Both left and right ear compensation by the same receiver reduces the minimum binaural base line. The receivers may be placed near the sender, yet the sound of the sender does not reach the receiver.

Claims allowed - 5.

1,706,066 Patented March 19, 1929

METHOD AND APPARATUS FOR LOCATING GEOLOGICAL FORMATIONS

John C. Karcher of Montclair, N.J., assignor to
Geophysical Research Corporation

Patent discloses a system using the radio wave, air wave, and ground impulse simultaneously for determining geological structure. Also a method of locating depth and slope by time of arrival of diffracted ground waves.

Claims allowed - 11.

Re 17,242 Reissued March 19, 1929

METHOD AND APPARATUS FOR DETERMINING THE CONTOUR OF SUBTERRANEAN STRATA

Burton McCollum, of Washington, D.C., assignor to
McCollum Geological Explorations

Original patent No. 1,672,495 dated June 5, 1928

Patent discloses a very comprehensive method of sonic exploration. It teaches how to overcome diffuse reflection by keeping the horizontal distance of the detecting device small from the normal or vertical path of the sound. To overcome differences in intensities of the direct and reflected wave the use of the inverse square relation, the shielding against the direct impulse, and selective operation of two or more recorders are specified. A multiple-receiver system intensifying the reflected wave is disclosed operating in a Wheatstone bridge circuit or coupled to a common mutual induction. A special method of making contact with the ground is described, and a method of mounting the recorder free from the influence of waves other than the desired ones is disclosed.

Claims allowed - 26.

859,123 Patented July 2, 1929

INSTRUMENT FOR RECORDING AND MEASURING VIBRATIONS

Johann Schütte, of Bremerhaven, Germany

Patent discloses a method of utilizing a gyroscope in place of the pendulum for recording oscillations. Various lever arrangements and recording methods are described.

Claims allowed - 2.

1,724,495 Patented Aug. 13, 1929

METHODS AND APPARATUS FOR DETERMINING THE SLOPE OF SUBSURFACE-ROCK BOUNDARIES

Burton McCollum, of Washington, D.C., assignor to
McCollum Geological Explorations, Inc.

Patent specifies a method of determining the slope of subterranean boundaries by measuring the time of arrival at a plurality of points substantially equidistant in horizontal plane from a source of sound. The various paths and relative distances are discussed in detail.

Claims allowed - 9.

1,724,720 Patented Aug. 13, 1929

METHOD AND APPARATUS FOR STUDYING SUBSURFACE CONTOURS

Burton McCollum, of Washington, D.C., assignor to
McCollum Geological Explorations, Inc.

Patent discloses a method of overcoming uncertainty of slow speed of sound in weathered rocks or unconsolidated stratum relative to the undisintegrated rocks by placing the transmitter of energy or the receiver of energy in the separate stratums at definite configurations.

Claims allowed - 5.

4- ELECTRICAL METHODS

269,439 Patented Dec. 19, 1882

APPARATUS FOR FINDING TORPEDOES, ETC.

Charles Ambrose McEvoy, Adelphi, England

Patent discloses a system of primary and secondary coils; one set is lowered into the water, the other remains on board. The secondary coils are balanced under normal conditions but become unbalanced when near a torpedo.

Claims allowed - 1.

274,883 Patented March 27, 1883.

APPARATUS FOR DETACHING MINERAL ORES

Fred H. Brown, of Boulder, Colo.

Patent discloses an induction coil operated by batteries. The secondary consists of two exploring wires with suitably insulated handles. The passage of a spark at the wire points indicates the presence of an ore conductor.

Claims allowed - 1.

277,087 Patented May 8, 1883

ELECTRIC DIVINING-ROD

Cromwell F. Varley, of Bexley Heath, England

Patent discloses method of locating ores from the effects of the natural electric currents which traverse the lode. Rotating coils in conjunction with commutator and galvanometer from the detecting device.

Claims allowed - 1.

293,518 Patented Feb. 12, 1884

MEANS FOR ELECTRICALLY LOCATING AND FOLLOWING VEINS OF METAL IN THE EARTH

Jerome Prince, of Milford, Mass.

Patent discloses a method of indicating the change of resistance of two terminals, fixed at a constant distance from each other, to the flow of electric current.

Claims allowed - 2.

308,908 Patented Dec. 9, 1884

MEANS FOR ELECTRICALLY LOCATING MINERAL VEINS

August P. Highthill, of Boston, Mass.

Patent discloses a method for ascertaining currents generated in mineral veins due to chemical changes thereof. Contact is made a few inches into the ground, preferably with magnetically polarized probes, and a galvanometer is used to indicate the current.

Claims allowed - 4.

367,422 Patented Aug. 2, 1887

ELECTRICAL ORE-DETECTOR

Lemuel Mellett, of Milford, Mass.

Patent discloses a multiple arrangement of electrodes energized by a battery which upon coming in contact with a metallic conductor causes sufficient current to flow to actuate an indicating device. Intended for submerged use.

Claims allowed - 4.

367,541 Patented Aug. 2, 1887

ELECTRICAL ORE-INDICATOR

Lemuel Mellett and Jerome Prince, of Milford, Mass.

Patent discloses a compass needle of multiple points which changes its rate of rotation near an ore body.

Claims allowed - 5.

380,842 Patented April 10, 1888

APPARATUS FOR EXAMINING ORES

John R. William, of Seattle, and William W. Hickies, of Oakland, Calif.

Patent discloses a method of examining rocks in situ as well as hand specimens to determine whether they contain metallic ores. A battery and a telephone receiver connected in series to two metallic brushes constitute the device. When applied to conducting ore the current actuates the receiver.

Claims allowed - 2.

412,924 Patented Oct. 15, 1889

ELECTRICAL METAL DETECTOR

Jesse F. Kester, of Terre Haute, Ind.

Patent discloses a mineral detector consisting of a solid elongated tapering blade composed of a pair of metal strips riveted together without making electrical contact. This device is thrust into the ground, and an indicator shows good electrical conductivity in the proximity of ores or metals.

Claims allowed - 1.

645,910 Patented March 20, 1900

PROCESS OF LOCATING METALLIC MINERALS OR BURIED TREASURES

Fred H. Brown, of Chicago, Ill.

Patent discloses a process for resistivity between various portions of the earth. Presence of natural earth currents as disturbing element in direct-current resistance bridge measurement are discussed; alternating current is substituted for the direct current.

Claims allowed - 2.

672,309 Patented April 16, 1901

PROCESS OF LOCATING METALLIC MINERALS

Fred Harvey Brown, of Los Angeles, Calif.

Patent discloses a method of measuring the resistance between stakes by superimposing an electrical impulse upon a previously steady current in a Wheatstone bridge circuit.

Claims allowed - 7.

681,654 Patented Aug. 27, 1901

ELECTRIC PROSPECTING APPARATUS

Augustus F. McClatchey, of Aurora, Ill.

Patent discloses specific methods of making contact with the earth to avoid inaccuracies of measurement. Means for protecting terminales against electrolytic action by suitable chemicals, also special electrodes embracing the above idea.

Claims allowed - 10.

686,632 Patented Nov. 12, 1901

APPARATUS FOR LOCATING METALS, MINERALS, ORES, ETC.

Augustus F. McClatchey, of Aurora, Ill.

Patent discloses in specifications that depth effect in resistivity measurements is a function of the distance between the stakes. It further describes various bridge arrangements with direct and alternating currents for making resistivity observations of the ground.

Claims allowed - 8.

714,775 Patented Dec. 2, 1902

ELECTRICAL PROCESS OF LOCATING RUNNING WATER IN THE EARTH

Fred Harvey Brown, of Los Angeles, Calif.

Patent discloses a method of receiving the vibrations set up in the channels through which the water passes. These vibrations are transformed to electric pulsations and into sound waves. The volume of sound over various sections are compared to each other.

Claims allowed - 1.

727,077 Patented May 5, 1903

APPARATUS FOR LOCATING METALS, MINERALS, BURIED TREASURES, ETC., WITHOUT DIGGING

Fred Harvey Brown, of Los Angeles, Calif.

Patent discloses a Wheatstone bridge circuit attached to one ground terminal, the other being movable. The current used is from a buzzer supply, and low resistance indicates presence of metal.

Claims allowed - 1.

736,411 Patented Aug. 18, 1903

METHOD OF LOCATING MINERALS

George I. Leonard, of Pasadena, Calif.

Patent discloses a method for measuring the resistance between two electrodes placed in earth. It further specifies that the earth be saturated with a liquid bearing a saturated salt solution of the metal composing the electrode.

Claims allowed - 11.

817,733 Patented April 10, 1906

APPARATUS FOR DETECTING AND LOCALIZING MINERAL DEPOSITS

Leo Daft and Alfred William, of Wimbledon, England

Patent discloses a method for mapping lines of a deposit by applying two electrodes to the soil and proceeding along an equipotential line with a resonant receiver. Lines of electric impulses concentrate over a medium of superior conductivity. An inductorium is used for a source of current. Sharp gradients are sought for to indicate mineral deposits.

Claims allowed - 7.

817,749 Patented April 17, 1906

ELECTRICAL APPARATUS FOR DETERMINING THE LOCATION OF METALLIC ORES

Fred Harvey Brown, of Los Angeles, Calif.

Patent discloses a method of using a variable current in a bridge circuit, one arm of which is the ground and the other an adjustable resistance for determining the resistance between definite intervals on the surface of the ground between two electrodes.

Claims allowed - 4.

840,018 Patented Jan. 1, 1907

APPARATUS FOR SEARCHING OF SUNKEN BODIES

Max von Schoultz, of St. Petersburg, Russia

Patent discloses a system of electromagnetic finders secured to a cable and dragged along the sea bottom. Differences in magnetic permeability from the surrounding element operate a signal connection to the finder.

Claims allowed - 2.

1,045,575 Patented Nov. 26, 1912

METHOD FOR LOCATING SUBTERRANEAN STRATA

Henrich Löwy, of Göttingen, Germany

Patent discloses a method of using reflected electromagnetic waves with a separation on the surface for minimum interference expressed as a function of one-half wave length.

Claims allowed - 5.

1,092,065 Patented March 31, 1914

METHOD FOR ASCERTAINING THE NATURE OF SUBTERRANEAN STRATA

Heinrich Löwy, of Göttingen, Germany

Patent discloses a method of applying a calibrated oscillating circuit in a mine or hose hole and measuring the variation of capacity and damping in the circuit.

Claims allowed - 1.

1,163,469 Patented Dec. 7, 1915

LOCATION OF ORES IN SUBSOIL

Conrad Schlumberger, of Paris, France

Patent discloses the application of unpolarizable terminal electrodes to the soil for determining series of equipotential curves produced by the ore layers on the surface of the ground.

Claims allowed - 3.

1,163,468 Patented Dec. 7, 1915

PROCESS FOR DETERMINING THE NATURE OF THE SUBSOIL BY THE AID OF ELECTRICITY

Conrad Schlumberger, of Paris, France

Patent discloses the charting of equipotential curves about an electrode placed in the ground. The electrode is supplied with direct or alternating current, and nonpolarizable exploring electrodes are used. From the comparison of these curves with the theoretical equipotential curves the nature of the subsoil is determined.

Claims allowed - 6.

1,248,380 Patented Nov. 27, 1917

METHOD OF AND APPARATUS FOR DETECTING THE PRESENCE OF ORE DEPOSITS IN THE EARTH

Rupert Nelson, of San Francisco, Calif.

Patent discloses a method of using different metallic ground electrodes and measuring the deflection in a quadrant electrometer. The electrode is connected to the needle and the quadrants are excited by a battery.

Claims allowed - 3.

1,325,554 Patented Dec. 23, 1919

MEANS FOR LOCATING ORE BODIES BY AUDIO-FREQUENCY CURRENTS

Wendell E. Carlson and Earl C. Hanson, of Washington, D. C.

Patent discloses an exploring coil forming an arm in a mutual induction bridge circuit which is balanced by a resistance for a disturbance in the field of the coil. Amplifying circuits and audio-frequency are used in the system.

Claims allowed - 3.

1,491,900 Patented April 29, 1924

PROCESS OF AND DEVICE FOR LOCATING ORE

D. G. Chilson, of Jerome, Ariz., assignor to
the University of Arizona

Patent discloses a method of applying an electrical contact to earth and the other to a known ore body and testing the intensity of electromagnetic reaction adjacent to these points. High as well as low frequencies are illustrated in the specification.

Claims allowed - 5.

1,492,300 Patented April 29, 1924

MEANS FOR ELECTROAVIATIC PROOF AND MEASURING OF THE DISTANCE OF ELECTRIC CONDUCTIVE BODIES

Heinrich Löwy, of Vienna, Austria

Patent discloses an antenna carried by a flying machine. The change of the natural period of this antenna is measured with a test receiver, and its variation is an indication of the electrical character of the ground.

Claims allowed - 4.

1,537,360 Patented May 12, 1925

ORE DETECTOR

Hans Torkel Fredrik Lundberg, of Lidingo Villastad,
and Harry Johan Hjalmar Nathorst, of Stockholm, Sweden

Patent discloses method of determining equipotential lines on the surface of the ground by bringing two primary electrodes into contact with the soil. One of these primary electrodes has a considerable extension in a horizontal direction in proportion to the distance between the two primary electrodes. Sensitive probing apparatus using alternating current are shown in the illustrations.

Claims allowed - 6.

1,564,940 Patented Dec. 8, 1925

METHOD OF DETECTING THE PRESENCE OF APPROXIMATE LOCATION OF METALLIC MASSES

F. S. Chapman

Patent discloses a method of using the variation of the amplitude of the ground wave from an oscillating antenna and balancing the strengths of the currents in the various directions against each other. Greater conductivity indicates the presence of conductors.

Claims allowed - 5.

1,585,591 Patented May 18, 1926

MEANS FOR ELECTRIC PROOF AND MEASURING OF THE DISTANCE OF ELECTRICALLY CONDUCTIVE BODIES

Heinrich Löwy, of Vienna, Austria

Patent discloses a method for measuring the distance to electrically conductive masses acting as reflecting surfaces by adjusting frequency, modulation in a vacuum tube circuit which alternately puts the transmitter and receiver out of action. If the time of cutting out the transmitter and the arrival of the reflected wave are made to coincide, then a maximum effect is produced in the receiver.

Claims allowed - 4.

1,241,197 Patented Sept. 25, 1927

METHOD AND APPARATUS FOR DETERMINING SUBTERRANEOUS CONDUCTORS

Harry R. Conklin, of Joplin, Mo.

Patent discloses an exciting loop placed upon the ground and supplied with high-frequency current from a spark oscillator. The curves of equal magnetic intensities within this loop are determined by two exploring coils acting through a rectified circuit upon a direct current instrument. The contour of these lines is an index to subterranean formations.

Claims allowed - 8.

1,652,227 Patented Dec. 13, 1927

METHOD OF INVESTIGATING THE NATURE OF SUBTERRANEAN STRATA

T. Zuschlag

Patent discloses a method of deducing the nature of the strata surrounding a drill hole by setting up of an antenna in the hole, subjecting it to a variable frequency, and thereby ascertaining the resistance characteristics to each frequency.

Claims allowed - 1.

1,660,774 Patented Feb. 28, 1928

METHOD FOR ELECTRICAL SEARCHING OF ORE

Mauritz Vos, of Stockholm, and Karl Lundberg, of Rasunda, Sweden, assignors to Svenska Radioaktiebolaget of Stockholm, Sweden

Patent discloses a method for detecting the present of ore deposits by direct-connecting an alternator to the earth and measuring the magnetic field distribution in the excited area. Intensities greater than the normal field intensities indicate the presence of ore bodies.

Claims allowed - 4.

1,665,662 Patented April 10, 1928

ELECTROMAGNETIC DETECTING DEVICE

Cecil E. Godkin, of Hayward, Calif.

Patent discloses a means of locating oil with the aid of an electric generator and galvanometer.

Claims allowed - 2.

1,672,328 Patented June 5, 1928

METHOD OF ELECTROMAGNETIC UNDERGROUND PROSPECTING

William A. Loth, of Paris, France

Patent discloses the application of an alternating electric current to the earth with electrodes and the measuring of the resultant magnetic field on the surface with exploring coils.

Claims allowed - 12.

1,676,847 Patented July 10, 1928

METHOD AND APPARATUS FOR EXPLORING SUBTERRANEAN STRATA

Theodore Zuschlag, New York City, assignor to Taumac Corporation

Patent discloses a method of determining the amplitude and phase of the alternating magnetic field in three perpendicular directions and computing therefrom the resultant. Bridge circuits with vacuum tube amplifiers are described in the specifications.

Claims allowed - 3.

1,676,779 Patented July 10, 1928

DEVICE FOR UNDERGROUND PROSPECTING

Shirl Herr, of Crawfordsville, Ind.

Patent discloses a method of locating electrical conductors with the aid of two coils, one an exciting coil and the other a receiving coil. Alternating current is used in the exciting coil and the respective axis can be sighted for mutually perpendicular adjustment. Normally this indicates a number of receptions of signal in the receiving coil. The variation of this minimum indication is used as an index to the disturbing electrical conductor.

Claims allowed - 4.

1,678,489 Patented July 24, 1928

METHOD AND DEVICE FOR DETECTING AND LOCATING ORES IN AN ELECTROMAGNETIC WAY

Karl Sundberg, of Rasunda, Sweden, assignor to
Aktiebolaget Elektrisk Malmletning

Patent discloses a method of subjecting the ground to the reaction of an alternating magnetic field and measuring the relative field intensities in the excited region. This is done with two coils and, if necessary, also by the aid of suitable extra series or shunt resistances or inductances. The method of procedure is described in detal. A portion of a known alternating magnetic field is balanced against an unknown one.

Claims allowed - 15.

1,679,339 Patented July 31, 1928

Hidden-Metal Detector

Shirl Herr, of Crawfordsville, Ind.

Patent discloses a method of locating hidden metal by the imbalancing of an alternating magnetic field in an exploring coil. The source of the primary field is a coil fixed in an adjustable position relative to the exploring coil near its center and having its axis at right angles to the exploring coil.

Claims allowed - 4.

1,692,530 Patented Nov. 20, 1928

METHOD AND APPARATUS FOR LOCATING ORE BODIES

Theodore Zuschlag, of New York City, assignor to
the Taumac Corporation

Patent discloses a method of reducing the magnetic field from the wires applied to stakes using alternating current by using another system of stakes in another adjacent circuit parallel to the former in which a current of the same amplitude but not of the same circuit flows in phase opposition.

Claims allowed - 7.

1,692,849 Patented Nov. 27, 1928

METHOD OF DETERMINING THE NATURE OF SUBSOIL

Max Mason, of Chicago, Ill.

Patent discloses a method of exploring the subsoil by applying electrical energy to the ground at two terminals with two other terminals as indicating terminals. The relation of the two current terminals and a potential terminal remains fixed; the other detecting terminal is moved for minimum current. All four terminals preferably are colinear, and the system is moved along a definite line for observations.

Claims allowed - 3.

1,708,386 Patented April 9, 1929

ELECTRICAL PROSPECTING DEVICE

Norbert Gella, of Cassel-Welhelmshöhe, Germany,
assignor to Peepmeyer & Co.

Patent discloses an exploring coil for measuring intensity and direction of alternating magnetic fields by a universally mounted coil with a protection against capacity influences by a tubular sheath.

Claims allowed - 4.

1,718,352 Patented June 25, 1929

METHOD OF LOCATING UNDERGROUND CONDUCTING BODIES

E. H. Guilford, of Darwin, Calif.

Patent discloses a method of inducing high-frequency currents in a conductor and detecting the magnetic fields from the currents in the conductor and its general axis. Selection of optimum frequency and maximum distorting effects at a plurality of points and the determination of the apparent distortion of the primary field are described. Also a method of determining the depth of the conductor from the various positions of the receiving coil is specified.

Claims allowed - 11.

1,719,786 Patented July 2, 1929

METHOD FOR THE LOCATION OF OIL-BEARING FORMATIONS

Conrad Schlumberger, of Paris, France

Patent discloses a method of measuring the conductivity of the ground between a pair of surface points spaced apart on a radius through one terminal --

the other is shown at a great distance from the first. Oil-bearing formations are located by comparing areas of greatest electrical conductivity coincident with greatest salinity.

Claims allowed - 1.

1,724,794 Patented Aug. 13, 1929

METHOD OF DETECTING ORE DEPOSITS

Walter W. Davis, of Great Neck, N.Y.

Patent discloses a method using Hertzian waves in subterranean transmission to locate ore by operating from one drift to another. The deflection of these waves from the normal straight path indicates unhomogeneity.

Claims allowed - 4.